

P-y Curves for Laterally Loaded Drilled Shafts  
Embedded in Weathered Rock

by

Mohammed A. Gabr, Ph.D., P.E.

Roy H. Borden, Ph.D., P.E.

Kook Hwan Cho

Shane Clark

Joseph B. Nixon

Department of Civil Engineering  
North Carolina State University

In Cooperation with  
The North Carolina Department of Transportation  
and  
The institute for Transportation Research and Education

North Carolina State University

Raleigh, North Carolina

December, 2002

**CIVIL  
ENGINEERING  
RESEARCH**

**NC STATE UNIVERSITY**

**DEPARTMENT OF CIVIL ENGINEERING  
NORTH CAROLINA STATE UNIVERSITY**